EXPRESSION OF INTEREST FOR PROVIDING ROLLING STOCK ON LEASE BASIS FOR LINE-5 OF DELHI METRO RAIL CORPORATION LTD.

Annexure-I

EOI 'RSL1'

DESIGN DATA OF CARS AND EQUIPMENT FOR EXISTING STOCK ON DMRC NETWORK LINE-5

Annexure – I

Design Data of Cars and Equipment- 'EXISTING STOCK'

(A) Vehicle Body

S.No.	Parameters	Specified Value
(i)	Carbody Material	Stainless Steel
(ii)	Technology adopted to join the modular elements of shell	Welding
(iii)	Dimensions of passenger saloon area:	
	(a) Internal Length	18360mm(DT) / 19640mm(M,T)
	(b) Width	2638mm
	(c) Height	2075mm
(iv)	Length of each car over couplers	22340mm(DT) / 22240mm(M,T)
(v)	Estimated no. of passengers(minimum)	315(DT) / 341(M,T)
(vi)	Tare weight of each complete car with bogies	41T
(vii)	Gross axle load of each car(maximum)	16T
(viii)	Bogie Wheelbase	2200mm
(ix)	Distance between bogie centres	14400mm~15100mm
(x)	Maximum height of roof apex(new wheels)	3800mm
(xi)	Maximum height with pantograph dropped down(new wheels)	4048mm
(xii)	Floor height above Top Of Rail (TOR) datum under tare and fully loaded conditions	1100mm~1130mm
(xiii)	Maximum variation in floor height due to wheel wear compensation	10mm
(xiv)	Material for interior panel	Glass Fibre Reinforced Plastic
(xv)	Window	Double glazed, toughened, laminated glass separated by and air gap
(xvi)	Grab pole and rails	Stainless tubing type
(xvii)	Train Operator's seat	Fold-up type
(xviii)	Passenger Seat	Stainless steel bucket, cantilever type
(xix)	Auto-Coupler	IP 65 Protected
(xx)	Inter-Car Gangway	
	(a) Manufacturer	Hubner
	(b) Clear head room	1900mm
	(c) Clear width	1400mm

(B) Bogies

Manufacturer: Hyundai Rotem, South Korea

(C) Predicted values for Ride Quality

S.No.	Parameter	Specified value
(i)	Predicted values for derailment quotient (Y/Q) for specified values of track twist	<1.2
(ii)	Predicted values of ΔQ/Q for specified values of track twist	≤0.5
(iii)	Predicted Bogie rotational resistance (X factor) at rotational speed of 0.8 degrees/second	<0.08
(iv)	Predicted ride index for new wheel, vehicle suspension parts with inflated air springs on existing DMRC track up to maximum design speed	<2.75
(v)	Predicted maximum values of vertical acceleration	0.27g
(vi)	Predicted maximum values of vertical acceleration	0.27g

(D) Pneumatic, Air supply and Brake system

Manufacturer: Knorr-Bremse, Munchen, Germany

(E) Door System

S.No.	Parameter	Specified Value
(i)	Passenger Saloon Doors	
	(a) Rated Voltage for drive	110V
	(b) Clear Opening width	1400mm
	(c) Clear opening height	1900mm
(ii)	Cab-Side Door	
	(a) Clear opening width	650±50mm
(iii)	Saloon to Cab Door	
	(a) Clear opening width	1000mm

(F) Pantograph

Manufacturer: Faiveley Transport, Lekov, Czech Republic & Faiveley Transport India Ltd., Hosur, India

(G) Vacuum Circuit Breaker

Manufacturer: Areva T&D India Ltd.

(H) Lightning Arrestor

S.No.	Parameter	Specified Value
(i)	Type	Metal Oxide, Gapless
(ii)	Specification to which compliant	IEC 60099-4
(iii)	Rated Voltage	>42kV
(iv)	Continuous operating voltage	36kV
(v)	Nominal Discharge current	20kA
(vi)	Class	3

(I) 25kV Explosion proof Potential Transformer

Manufacturer: Ritz Messwandler, Hamburg, Germany

(J) AC Current Transformer

Manufacturer: MELCO, Japan

(K) Transformer

Manufacturer: MELCO, Japan

(L) Power Converter-Inverter

Manufacturer: MELCO, Japan

Input Frequency: 48Hz to 52Hz

(M) Traction Motor

Manufacturer: MELCO, Japan

(N) Auxiliary Converter (IGBT based)

Manufacturer: MELCO, Japan

(O) Battery Charger

Manufacturer: MELCO, Japan

(P) Communication System

Manufacturer: TOA, Japan

(Q) Interior and Exterior Noise Levels

(a) Interior

S.No.	Parameter	Specified Value	
		dBA Stationary	dBA Stationary
(i)	All cars except Driving Cab(Elevated)	68	72
(ii)	Driving Cab(Elevated)	68	70
(iii)	All cars except Driving Cab(At Grade)	68	72
(iv)	Driving Cab(at grade)	68	70
(v)	All cars except Driving Cab(Tunnel)	75	-
(vi)	Driving Cab(Tunnel)	72	-

(b) Exterior

S.No.	Parameter	Specified Value	
		dBA Stationary	dBA Stationary
(i)	Elevated	67	84
(ii)	At Grade	67	84

Further information, if required, can be requested at the time of One-to-One interaction after submission of EOI.